

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application.

Listing of Claims:

1. (Original) Cyclotron (1) intended for the acceleration of a charged particle beam (16) circulating in the median plane (10), essentially being in the form of two poles inducing a magnetic field and having a so-called axial injector (100), i.e. an injector located on the outside of the cyclotron, essentially in accordance with the main axis (22) of the cyclotron, and so perpendicularly to the median plane of the same, and which is combined with inflection means (30 or 40) which make it possible to inflect the particle beam until it is positioned in the median plane, characterized in that the inflection means are made up of a magnetic inflector.
2. (Currently Amended) Cyclotron according to claim 1, ~~characterized in that~~ wherein the inflection means provide the magnetic field with a horizontal or radial component at the level of the centre of the cyclotron, thus making it possible to guide the charged particle beam in such a way that it progressively inflects towards the median plane.
3. (Currently Amended) Cyclotron according to claim 1 ~~or 2, characterized in that~~ wherein the inflection means are made up of ferro-magnetic elements (31 and 33), preferably integrated with the two poles.
4. (Currently Amended) Cyclotron according to claim 3, ~~characterized in that~~ wherein the said inflection means comprise a first element in the form of a cone (31), and a second element in the form of a ring (33) surrounding a section of the said cone.

5. (Original) Cyclotron according to claim 4, in which the axes of symmetry of the said elements coincide with the axis of symmetry of the cyclotron.
6. (Currently Amended) Cyclotron according to ~~any of the claims 3 to 5, characterized in that~~ claim 3, wherein it also comprises, upstream from the inflection means, guiding elements (28) for the said beam.
7. (Currently Amended) Cyclotron according to claim 1 ~~or 2, characterized in that~~ wherein the inflection means are made up of rings or washers (40) assembled from individual elements which are permanent magnets.
8. (Original) Cyclotron according to claim 7, in which the said permanent magnets are made from an alloy such as a samarium-cobalt or neodymium-iron-boron alloy.
9. (Currently Amended) Cyclotron according to claim 8 ~~or 9~~, in which the said inflection means are made up of a series of rings of which the central points form a trajectory in the form of a spiral helix.